# The Digital Divide and the 21st Century Worker

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# What Is It?

The term "Digital Divide" refers to the gap between those who can effectively use new information and communications tools, such as the Internet, and those who cannot.  While a consensus does not exist on the extent of the divide (and whether the divide is growing or narrowing), we all know that some sort of divide exists.

The Digital Divide raises issues about ownership and access between majority and minority communities and urban and rural areas.

# Where Are We Now?

Online Community

- Globally -  Only 1 in 20 people
- North America  - 60% of Internet users

A recent U.S. Department of Commerce report, ***"A Nation Online: How Americans Are Expanding their Use of the Internet,"*** shows just how this and other technologies are being adopted by Americans.   Accordingly to the report:

- The rate of growth of Internet use in the U.S. is 2 million new Internet users per month
- More than half the nation is now online
- In September 2001, 66% of the U.S. population used computers
- 80% of Americans access the Internet through dial-up service
- Groups that have traditionally been digital have-nots are now making dramatic gains.
- 98% of all public schools in the U.S. were connected to the Internet by Fall 2000, with virtually no difference in access by school characteristics (size, income level, location).
- Residential use of broadband service is rapidly expanding, doubling from 4% - 11% of all individuals, and 11% to 20% of Internet users

- 45% of the population now used email in 2001, up 10% from 2000
- One-third of Americans use the Internet to search for product and service information, increasing 10% between 2000 and 2001
- 39% of Internet users are making online purchases
- 35% of Internet users are searching for health information
- In Pennsylvania, 49% of households were on the Internet in 2001.

Another U.S. Dept. Of Commerce National Telecommunications

and Information Administration's (NTIA) report, **"Falling Through the Net: Toward Digital Inclusion,"** reported that the

level of digital inclusion has increased since 1998.

# **Have-Nots**

As identified by The National Policy Association's (NPA) Digital Economic Opportunity Committee (DEOC), this group is comprised of:

- ❧ women,
- minorities,
- seniors, and
- persons with disabilities

I will also include in this group, minority colleges

# Barriers

As this issue relates to women, minorities and minority colleges,

the following have been identified:

❧ **For Women**
* lack of knowledge about options
* multiple workloads (both family and work obligations)
* lack of funds
* lack of workplace mentors, no IT career ladders
* lack of competency-based training

 **For African Americans**
* education
* access
* corporate culture
* relevant content

**For Latinos**
  * language
  * lack of understanding of workplace norms and culture
  * general lack of exposure to person computer
  * relevant content

**For Minority Colleges**
  * inadequate technical infrastructure & equipment
  * limited support & staff
  * insecure & inadequate funding

# Status of Minorities

Between August 2000 and September 2001, Internet use among Blacks increased at annual rates of 33% and for Hispanics 30%, surpassing that of whites and Asian Americans, with annual growth rates of 20% during this same period.

Between December 1998 and September 2001, Internet use by individuals in the lowest income households (those earning less than $15,000 / year) increased at a 25% annual growth rate.

- The highest growth rate among different types of households is for single mothers with children (29%).
- 38% of Blacks in Urban areas, and 34% of Blacks in Central Cities own a computer. However, computer ownership of Blacks in income levels under $35,000 is the lowest of all racial groups (White, Black, Asian Americans & Pacific Islanders and Hispanic).
- The percentage of Black households with Internet access in Urban areas is 32% and in Central Cities 27%.
- The percentage of Internet access for Blacks and Hispanics at income levels of $15,000 - $35,000 rates are the same, increasing by 2.5% as income levels increase.

# African American Women

As the keepers of the culture in our communities, we play a vital role. And over time, we have contributed more than most people are aware of.  Did you know that these African American women received patents for their inventions?

- In 1799, Mary Moore for a Pain Relief Composition
- In 1919, Alice H. Parker, for her Improvement on the Heating Furnace
- In 1920, Mary J. Reynolds for her Hoisting / Loading Mechanism and M. Thomas for her Float-operated circuit closer

- In 1969, Marie V. Brittan Brown and her team for inventing the Home Security System Utilizing Television Surveillance, a video and audio security for a house that the occupant can control from the inside
- In 1987, Ruane Jeter, for the Digital Toaster
- In 1988, Patricia Bath, M.D. for her invention, Apparatus for Cataract Lenses
- In 1993, Joanna Hardin, for the Keyboard Stand

# Women Leading the Way

- **National**
  - Shirley Ann Jackson, Ph.D. - President of Rensselaer Polytechnic Institute, the oldest technological university in the U.S. is a Black woman,
    - Her work in solid - state physics in semiconductors helped keep Bell Laboratories in the forefront of the rapidly advancing field of electronic communications
    - First African American woman to earn a Ph.D. at MIT in any discipline,
    - First African American on the Nuclear Regulatory Commission
    - First to head the agency.
- **Local - Philadelphia**
  - Chief Information Officer (CIO), City of Philadelphia, , President & CEO, Port of Technology, and President, Ben Franklin Technology Partnership.  (White)
  - CIO, Community College of Philadelphia, CIO Philadelphia Coca Cola Bottling Company, former CIO of PECO Energy, and V.P.Information Technology, Enterprise Application Development & Support, Cendant  (African American)

# **Women of Color in Technology Awards**

❧ July　Women in Technology in Government
& Defense Awards,
Washington, D.C.


▢　September　　Women in Technology Awards,
Atlanta, GA

# The 21st Century Workforce

- Virtually every worker in the new economy is an IT worker.
- All occupations in today's workforce require some level of IT ability
- Worker need a "21st Century Literacy" to successfully compete.  These skills are defined as:
  - ability to read, write, and computer with competence
  - to think analytically
  - to adapt to change
  - to work in teams, and
  - to use technology

❧ Key issue in upgrading worker skills - lack adequate literacy

 ✳ A 2001 study by the Massachusetts Institute for a New Commonwealth (MassINC) found that 1.1 million of the 3.2 million adults in the Massachusetts labor force lacked basic reading, writing, math, language, and analytical abilities necessary in the typical modern workplace.

 ✳ A national survey on workforce testing by The American Management Association (AMA) in 2001 had similar findings.  Over 1/3 of job applicants, 34.1%, tested nationally lacked sufficient skills for the positions they sought.

  • AMA's survey defined basic skills as "functional workplace literacy:"
   – ability to read instructions, write reports, and / or do arithmetic at a level adequate to perform common workplace tasks.

# Workforce Issues

- Gap in skills needed by workers to perform technical and professional IT jobs.
- Many adult information have-nots lack the opportunities and skills to fully participate in the new economy and will be left even further behind without concerted action.
- Current workers have been performing old economy jobs and need to acquire basic workplace literacy skills to perform even IT-enable jobs.
- Adult learning systems in place today are inadequate to meet the need for skilled workers.
- Barriers to recruiting and training members of nontraditional labor pools and underrepresented communities must be removed.
- Growing numbers of workers are self-employed or work for companies on a contract / contingent basis.
- Today's workforce development programs need working partnerships and local leadership.

The 21st Century Workforce Commission and the Information Technology Association of America (ITAA) adopted Eight IT career clusters defined by the NorthWest Center for Emerging Technologies (NWCET) to categorize an IT worker.

- Database development and administration
- Digital media
- Enterprise systems analysis and integration
- Network design and administration

- Programming / Software engineering
- Technical support
- Technical writing
- Web development and administration

African Americans represent less than 5% of IT workers in the U.S.

# Workplace Needs

- Identify ways to raise the technical skills of the workforce

- Clarify specific skills and knowledge that workers will require in a rapidly changing business and technological environment

- Determine social, political, corporate, and labor-management initiatives that are needed to address the problem and will publish its recommendations.

# Importance of Minority College Relations Program

**According to Peter Drucker's November 3, 2001 article, _"The Next_**
_**Society"**_ **in The Economist, our developing knowledge economy is**
**increasingly relying on knowledge workers, or**
_**"knowledge  technologists"**_

-  computer technicians
-  manufacturing technicians

**as he calls them.  These include:**

-  software designers
-  paralegals, etc.

-  analysts in clinical labs

**It is his position that their work is based on a substantial amount of**
**theoretical knowledge which can be acquired <u>only through formal education</u>, not through an apprenticeship.**

# Digital Divide on HBCU Campuses

The impact of the Digital Divide on HBCUs was addressed at the First HBCU

Digital Divide Summit at Tennessee State University, October 2001.

**Issue:** HBCUs lag behind other higher education institutions (HEIs) in technology assets, accessibility and use.

**Digital Challenge for HBCUs - enhance:**

- technology capability / infrastructure
- organization / management
- support and productive use / accessibility
- fiscal / human resources

**Opportunity**

- work with secondary schools to help bridge the education gap of minority, inner city and rural secondary students
- partner with other HEIs and the business community in technical education and workforce development initiatives

# Options / Action Steps

❧ Need to establish skill standards - agreed - upon, industry-identified knowledge, skills,and abilities required to succeed in the workplace.

✳ ITEA
- The International Technology Education Association (ITEA) has published, Standards for Technological Literacy: Content for the Study of Technology, identifying 20 standards.
  Website: www.iteawww.org/TAA/STLstds.htm

✳ ICDL
- The International Computer Driving License (ICDL) is part of the eEurope plan, the European Union's strategy to bring the continent's economy into the digital age.  Under the plan, countries work together to devise training programs to give their citizens standardized technological skills.
- ICDL Training & Certification Program coming to the U.S.

- Help education align education programs to workplace needs and provide certifying credentials that ensure employability
  - *TPAC* - eWorkforce Summit / Technology Scholarships
  - *DigitalSistas.net* - Lincoln University Urban Center – Continuing Education Professional Development Program – linking Internet2 with HBCU
  - *Workforce 2000* – Authorized Microsoft Testing Center, Faith-based Technical Training Program
- Forming regional training consortia among businesses, workers, unions, and educational institutions.
  - MAGPI - Internet2
  - NASA Cheyney / Lincoln - MU-SPIN
  - Tennessee State University - NASA - MU- SPIN ( Network Resource & Training Sites (NRST) grant - to support other minority serving institutions (MSIs) in Tennessee, Kentucky, Alabama, & Mississippi.
    - Rated as 27th most wired university in the nation by Yahoo Magazine in 2000.

# Thank You